

CLAIMS

1. Compound of a thermoplastic synthetic material and a strengthening component, characterized in that the thermoplastic component is synthetic polyester and the strengthening component organic filler.
2. Compound as in claim 1, characterized in that the thermoplastic component is polyethylene terephthalate (PET).
3. Compound as in claim 1 or 2, characterized in that the organic strengthening components fine-particle wood or wood fibers.
4. Compound as in one of the claims 1 to 3, characterized in that the PET is waste from the collection of used PET products, in particular from the collection of packing material.
5. Compound as in one of the claims 1 to 4, characterized in that an inorganic filler is provided.
6. Compound as in one of the claim 5, characterized in that the inorganic filler is provided to influence the moisture resistance and/or the specific weight and/or for coloring.
7. Compound as in one of the claims 1 to 6, characterized in that an additive is provided to influence electric conductivity, UV resistance, aging behavior, odor, coatability, bondability, weldability, chipability and./or fire resistance.
8. Compound as in one of the claims 1 to 7 characterized in that an organic or physical foaming agent is provided to influence porosity and/or thermal characteristics.

9. Compound as in one of the claims 1 to 8, characterized in that the mixing ratio between wood and synthetic polyester lies within the range from 7:30 to 30:70, in particular from 60:40 to 30:70, and preferably from 50:50 and 30:70.
10. Process for the production of a structural part from a compound as in one of the claims 1 to 8, characterizes in that the compound is produced through thermoplastic conversion, preferably through extrusion or injection molding.
11. Process as in claim 10, characterized in that a board-shaped structural part is produced.
12. Process as in claim 11, characterized in that the structural part is postprocessed by means of a calendering device or double band press downstream of the extruder.
13. Process as in claim 10, characterized in that a rope-shaped structural part is produced.
14. Process as in one of the claims 10 to 13, characterized in that at least one surface of the structural part is provided with a coating.
15. Process as in claim 14, characterized in that the surface is laminated with a laminate, an impregnator, a foil, in particular metal foil, with cardboard, with leather, with linoleum, with cork or with wood, in particular veneer.
16. Process as in claim 14, characterized in that the surface is coated with a powder coating.
17. Process as in claim 14, characterized in that the coating is applied in liquid form.
18. Process as in claim 14, characterized in that a color coating, lacquer or artificial resin is used as the liquid coating.

19. Process as in claim 14, characterized in that a coating of synthetic material is applied by means of co-extrusion.
20. Structural part consisting at least in part of a compound as in one of the claims 1 to 9.
21. Structural part as in claim 20, characterized in that the structural part has been produced by means of a process according to one of the claims 10 to 19.
22. Structural part as in claim 20 or 21, characterized in that the structural part is used as wall, ceiling or floor covering.
23. Structural part as in claim 20 or 21, characterized in that the structural part is used as a profile, in particular elements of window frames or door frames.
24. Structural part as in claim 20 or 21, characterized in that at least one surface of the structural part is provided with a coating.
25. Structural part as in one of the claims 20 to 24, characterized in that swelling when stored in water for over 2 hours is less than 0.5% and less than 1.0% at 24 hours and more.
26. Structural part as in one of the claims 20 to 24, characterized in that the change in flexural resistance of the structural part is less than 10% and in particular 8% with artificial weathering for over 400 hours.
27. Structural part as in one of the claims 20 to 24, characterized in that the change in flexural resistance of the structural part is less than 15% and in particular 13% with artificial weathering for over 1000 hours.

28. Structural part as in one of the claims 20 to 24, characterized in that the change in flexural resistance of the structural part is less than 20% and in particular 18% with artificial weathering for over 2016 hours.
29. Structural part as in one of the claims 20 to 24, characterized in that the swelling at the edges is less than 2% as measured according to EN 13329.